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Title : **STATIC TESTING OF LCA CO-CURED FIN (PRELIMINARY REPORT)**

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Abstract : A Carbon Fibre Reinforced Plastic (CFRP) composite fin for Light Combat Aircraft (LCA), is being developed at NAL. A full scale static testing of the fin is required to be carried out by NAL, to determine its strength and stiffness parameters. Due to practical difficulties and constrains, the actual distribution of loads, and maintaining attachments, are tedious and cumbersome. Therefore simplified aerodynamic loading and simulated attachment conditions will be used in the static testing.

Aerodynamic and inertial loads will be applied on the fin mounted on a static rig with simulated attachment conditions through a whiffle tree loading mechanism. This report deals with the static testing scheme namely, simplification of the aerodynamic loads, into 14 concentrated loads, simulation of attachment conditions, design of whiffle tree loading mechanism, response mesurements (strains and deflections) and proposed test procedure. The test scheme will also be presented to the review committee. The test procedure will be finalised *incorporating necessary modifications / alterations* if any, recommended by the review committee, constituted by the sponsor which includes the certifying authority.